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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/029,802	12/31/2001	Hanwu Hu	13831.00009	7333

27160 7590 08/11/2004

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EXAMINER

HUGHES, DEANDRA M

ART UNIT	PAPER NUMBER
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3663

DATE MAILED: 08/11/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/029,802

Applicant(s)

HU ET AL.

Examiner

Deandra M Hughes

Art Unit

3663

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 2 is/are rejected.
- 7) ☒ Claim(s) 3-8 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 December 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 9/1/03; 3/19/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claims 1-8 are objected to because of a minor informality. In particular, bulleting the element of the apparatus with lower case letters is inappropriate. Where a claim sets forth a plurality of elements or steps, each element or step of the claim should be separated by a line indentation. There may be plural indentations to further segregate subcombinations or related steps. See 37 CFR 1.75 and MPEP 608.01(i)- (p).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Koren (US 6,134,250 published Oct. 17, 2000) in view of Deacon (US 6,324,204 published Nov. 27, 2001).

With regard to claim 1, Koren discloses:

- a pump laser source (col. 3, line 29);
- an optical amplifier (102);
- an optical channel *switching mechanism* (100);
- an optical output-signal coupler (MOD LASER OUTPUT);
- a polarization controller (107); and
- an optical modulator (104)

Art Unit: 3663

wherein the components are optically connected as a closed ring to provide the optical output-signal as the laser source.

Koren does not specifically disclose that the optical switching mechanism is an interleaver. However, Deacon teaches the use of an optical interleaver in an optical fiber ring laser (col. 5, lines 30-45). It would have been obvious to one of ordinary skill in the art (e.g., an optical engineer) to use the interleaving mechanism of Deacon for the advantage of doubling the space in the resonator for thermal compensation material.

4. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Koren (US 6,134,250 published Oct. 17, 2000) in view of Deacon (US 6,324,204 published Nov. 27, 2001) as applied to claim 1 above, and further in view of Bigo (US 5,857,040 published Jan. 5, 1999).

With regard to claim 2, Koren in view of Deacon does not specifically disclose a gain flattening filter in the ring configuration. However, Bigo teaches the use of a gain-flattening filter (BPC) in a ring laser source. It would have been obvious to one of ordinary skill in the art (e.g., an optical engineer) to use the gain flattening filter of Bigo for the advantage of narrowing the spectral distribution of the signal channels.

Allowable Subject Matter

5. Pending correction of the claim to obviate the objection outlined in paragraph 1 of this action, claims 3-8 are allowed.

Art Unit: 3663

6. The following is a statement of reasons for the indication of allowable subject matter. The prior art does not teach or make obvious a ring laser source with two pump signals and two interleavers.

Conclusion

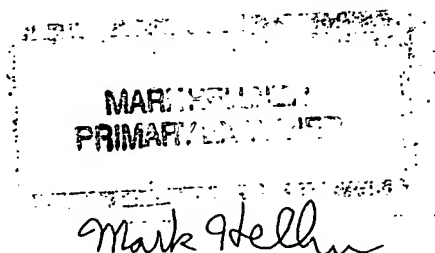
7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Islam, Vahala, and Li disclose fiber ring laser sources.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Deandra M Hughes whose telephone number is 703-306-4175. The examiner can normally be reached on M-F, 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas H Tarcza can be reached on 703-306-4171. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


DMH


MARK HELBER
PRIMARY EXAMINER
Mark Helber